

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-24 are pending in the application, with claims 1, 7-13 and 19 being the independent claims. Claim 1 is amended. Claims 6-13 and 15-24 are withdrawn pursuant to a restriction requirement. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendments and the following remarks, Applicants respectfully request that the Office reconsider all present rejections and that they be withdrawn.

I. Rejections under 35 U.S.C. § 103

Claims 1-5 and 14 were rejected as allegedly obvious in view of PCT Publication No. WO 01/17973 to Maetzke ("Maetzke"). The Office alleged that the key issue is determining whether the difference between the Maetzke compounds and the presently claimed compounds would have been obvious to one of ordinary skill in the art. Office Action, p. 2-3. Specifically, the Office points to compound Ib-40 in Maetzke, stating that the difference between Maetzke and the presently claimed invention is the position of the substituent **R**₂, 2-Cl-phenyl at the *para*-position, for Maetzke, and the substituent **Z**, 2-Cl-phenyl at the *meta*-position, for the presently claimed invention. See Office Action dated January 1, 2009, page 5. Applicants respectfully traverse this rejection and provide their arguments herein.

A. Legal Principles

The courts have recently addressed the requirements for a determination of obviousness in the chemical compound area. *See KSR Int'l v. Teleflex Inc.*, 127 S. Ct. 1727 (U.S. Sup. Ct. 2007); *Takeda v. Alphapharm*, 492 F.3d 1350 (Fed. Cir. 2007); *Takeda Chem. Indus. v. Mylan Labs.*, 549 F.3d 1381 (Fed. Cir. 2008); *Eisai Co., Ltd. v. Teva Pharms. USA, Inc.*, 533 F.3d 1353 (Fed. Cir. 2008). Under these modern decisions, the Office is required to (1) identify some reason that would have led a person of ordinary skill in the art to select a particular compound as a "lead compound" in the cited reference; and (2) show that a reason existed, based on what was known at the time of the invention, to perform the chemical modifications necessary to achieve the presently claimed compounds. *See Takeda v. Alphapharm*, at 1362-1363.

B. The Office has not identified a reason to select a particular "lead compound" from Maetzke

As a threshold matter, to find obviousness of a chemical compound, the court in *Takeda* required a finding that "one of skill in the art would have selected [the prior art compound] as a lead compound." *Takeda v. Alphapharm*, at 1362-1363. Only after a showing that a prior art compound would have been selected as a lead compound did the court consider the obviousness of modifications to that compound.

Just as in *Takeda*, here the Office has alleged that the presently claimed compound having a 2-Cl-phenyl substituted at the *meta*-position (i.e., compound I-1-a-2 of the present invention) is obvious in view of a isomer having a 2-Cl-phenyl substituted at the *para*-position (i.e., compound Ib-40 of Maetzke). However, Applicants respectfully submit that the Office has failed to identify a reason that would have

directed one of skill in the art to select compound Ib-40 from Maetzke as a lead compound for chemical modification.

Maetzke discloses thousands of potential compounds, and exemplifies approximately 200 of those compounds. Maetzke, p. 49-67, Tables 1-7. However, only seven of which are compounds wherein R₂ is a 2-halo-substituted phenyl. *Id.* Furthermore, Maetzke discloses herbicidal testing data for 24 specific compounds. *Id.* at p. 65, Table B2. However, nearly all of the 24 tested compounds are substituted at the R₂ position with unsubstituted phenyl, yet none of the tested compounds are substituted at the R₂ position with a 2-substituted phenyl. *Id.*

Furthermore, the Office has not pointed to any disclosure in Maetzke that would have directed one of ordinary skill in the art to select a compound wherein R₂ is a 2-substituted-phenyl. Additionally, Maetzke provides no testing data for compounds wherein R₂ is 2-substituted phenyl. Rather, Maetzke's testing data demonstrates a preference for unsubstituted phenyl at the R₂ position, and thus, Maetzke compounds wherein R₂ is unsubstituted phenyl would have been more obvious "lead compounds" to one of ordinary skill in the art than compounds wherein R₂ is 2-substituted phenyl.

Therefore, in accordance with *Takeda*, Applicants respectfully submit that the Office has not established as a threshold matter that one of ordinary skill in the art would have selected a Maetzke compound wherein R₂ is 2-substituted phenyl as a lead compound, and a determination of the obviousness of any modifications to the Maetzke compounds wherein R₂ is 2-substituted phenyl is premature.

Accordingly, for at least these reasons above, Applicants submit that the presently claimed invention is not obvious and respectfully request that the rejection of claims 1-5 and 14 under 35 U.S.C. § 103(a) over Maetzke be reconsidered and withdrawn.

C. There was no reasonable expectation of success to modify the Maetzke compounds

Even if the Office had identified a reason that one of ordinary skill in the art would have selected a Maetzke compound wherein R₂ is a 2-substituted phenyl, which it has not, there was no reasonable expectation of success to perform the chemical modifications necessary to arrive at the presently claimed compounds.

In *Takeda*, the court upheld a finding that "there was no reasonable expectation in the art that changing positions of a substituent on a pyridyl ring would result in beneficial changes." *Takeda*, at 1361. Furthermore, the court in *Takeda* reiterated that modern decisions have cautioned against finding a *prima facie* case of obviousness based on the generalization that structurally similar compounds are presumed to have similar properties. *Id.*

Just as in *Takeda*, the Office has not pointed to any disclosure in Maetzke that would have provided one of ordinary skill in the art with a reasonable expectation of success to modify the position of the R₂ group on the phenyl ring and arrive at compounds demonstrating superior insecticidal activity. Furthermore, the court in *Takeda* found that evidence of unexpected superior properties of the claimed compounds over the prior art compounds was persuasive in finding against a reasonable expectation of success. As discussed in Applicants previous reply, the presently claimed *meta*-

substituted compounds demonstrate unexpected superior insecticidal activity over their *para*-substituted counterparts of Maetzke.¹ See Applicants' Reply dated Sept. 18, 2009, p. 37-39.

Accordingly, Applicants respectfully submit the Office has not met its burden to demonstrate that one of ordinary skill in the art, at the time of the invention, would have had a reasonable expectation of success to perform the necessary chemical modifications necessary to arrive at the presently claimed compounds.

For at least the reasons above, Applicants submit that the presently claimed invention is not obvious and respectfully request that the rejection of claims 1-5 and 14 under 35 U.S.C. § 103(a) over Maetzke be reconsidered and withdrawn.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Office reconsider all present rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Office believes, for any reason, that personal communication will expedite prosecution of this application, the Office is invited to telephone the undersigned at the number provided.

¹ Applicants note the Office's objections regarding the Declaration of Dr. Wolfgang Thielert (Declaration). Applicants respectfully disagree with the Office's position and submit that the Declaration provides evidence against a finding of a reasonable expectation of success in performing the *para*- to *meta*- chemical modifications of the Maetzke compounds.

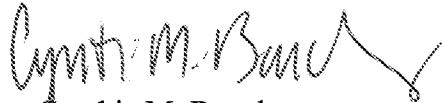
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Reply to Office Action of December 1, 2009

FISCHER *et al.*
Appl. No. 10/567,788

Prompt and favorable consideration of this Amendment and Reply is respectfully
requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Cynthia M. Bouchez
Attorney for Applicants
Registration No. 47,438

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1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600

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